

HELPS FOR STUDENTS OF HISTORY.



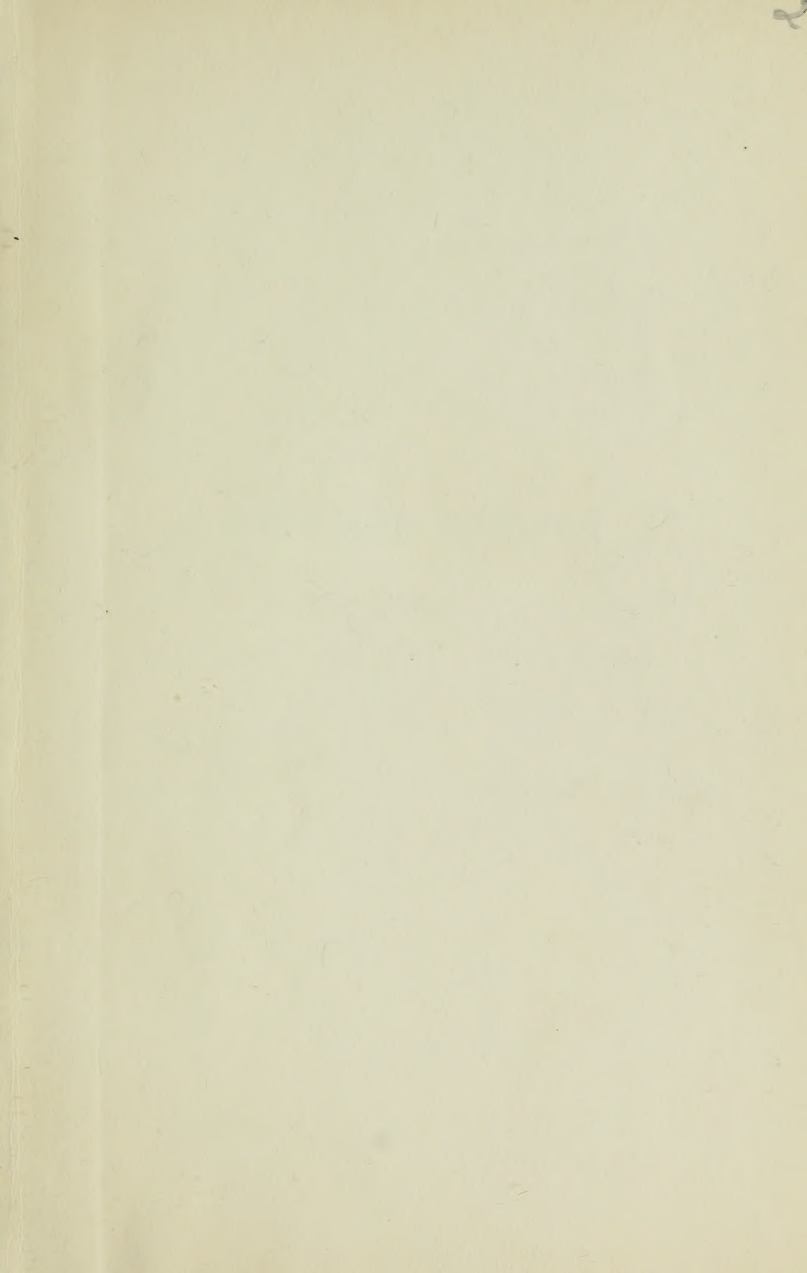
COINS AND MEDALS

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G. F. HILL

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COINS AND MEDALS

HELPS FOR STUDENTS OF HISTORY, No. 36

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COINS AND MEDALS

BY

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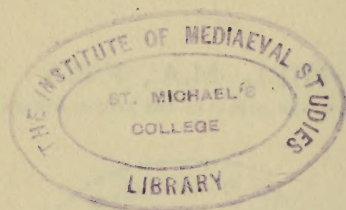
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COINS AND MEDALS

I

FROM the time of its invention, in the eighth century B.C., down to the present day, coinage—that is to say, metallic currency—supplies to the student of history evidence of different kinds and of varying value. The earlier the period the more useful, in one way, we may expect to find the coins, for the simple reason that other contemporary records are scarcer than in a later age. The coins may, indeed, be the sole evidence bearing on the question under consideration. On the other hand, on account of this very scarcity of contemporary materials for comparison, the farther back we go the more difficult it becomes to interpret the coins themselves, to date them, to say where or by whom they were issued, to explain the meaning of their types. The study of numismatics does not fall behind any other branch of historical research in its demand for caution and clearness of judgment. Indeed, owing to the long and continuous series of documents with which it deals, affording numerous parallels between developments in dif-

ferent States and at different periods, it has been claimed that as a training-ground for the critical faculty it surpasses every other branch of archæology. It cannot, however, be denied that the school has produced its due proportion of failures in this respect, especially in the domain of metrology, reminding us of the truism that, excellent as training may be, it cannot develop a critical faculty which does not exist in the student.

With this warning of the possibly defective presentation and interpretation of the evidence, we may proceed to describe, briefly, the chief categories into which that evidence may be divided; after which, in a pamphlet like this, all that can be done is to supply a select bibliography.

As the official product of a department of State, coins by their very existence bear witness to a political organization of some kind. Even the private currencies which at some periods preceded or even overlapped the stage in which coinage became the prerogative of the State, as in the American colonies, throw a sidelight on the economic condition of the country. So, too, the enormous quantities of halfpenny and farthing tokens issued in brass in the names of individuals and towns in seventeenth-century England give a vivid suggestion of the difficulties suffered by the lower classes which they were intended to remedy; and the shortage of currency in the last years of the

eighteenth century, and down to the end of the Napoleonic wars, is illustrated, not merely by the official issues of Spanish dollars countermarked with the head of George III., and of the silver tokens of the Banks of England and Ireland, but also by the innumerable tokens, sometimes of silver, but more often of copper, representing towns or firms or individuals, and by the bewildering "medley halfpence"—imitations of the regal coinage, with fantastic inscriptions. But these forms of currency illustrate what we already know from other sources, rather than supply new facts. There are coins or groups of coins which afford the sole evidence for the existence of cities or federal organizations, or reveal the names and dates of rulers otherwise unknown. Silerae, a Sicilian town, which issued bronze coins in the time of Timoleon, is not mentioned by any ancient authors. Atusia, on the Tigris, another unknown Greek town, is represented by a unique bronze piece of about 100 B.C., on which, it is true, the reading of the town-name is not quite certain (Atumia being also possible). And when we realize that there are coins of the fourth century B.C. bearing the name of Autocana, it is seen that the attempts of Homeric critics to emend away the mention of the Mountain of Autocane in the "Hymn to Apollo" are unnecessary. Obviously, places which have left so slight a trace cannot have had

much history. Of more importance is such a record as that provided by a group of coins struck by Rhodes, Cnidus, Iasus, Samos, Ephesus, and Byzantium, soon after 394 B.C., when Conon expelled the Spartan oligarchies from many of the towns on the Asiatic coast. The places mentioned formed an alliance, and struck alliance coins of uniform special weight, with their own devices on the one side and, on the other, the infant Heracles strangling the serpents—emblem of the birth of a new democracy. No authors mention this league, which must have lasted for at least five years, since Byzantium did not expel her oligarchs until 389. The coinages of federations of which we know something from literary sources often add numerous details to our information. Strabo tells us that the Lycian League comprised twenty-three towns; the coins give us the names of twenty or more, and add the information that most of them were grouped in one or other of two districts—Cragus and Masicytes. Old Smyrna was destroyed by the Lydian Alyattes about 585 B.C., and was not known to have been restored until after the time of Alexander the Great. Yet that an attempt was made to restore it soon after 400 B.C. has been proved by the discovery of a fine coin of that period bearing its name. When we come to regal coinages, whole series of kings are sometimes recorded by their coins alone. The coins are the basis of such history

as it has been possible to construct of the Greek kingdoms of Bactria and N.W. India. Were it not for their evidence, we should have supposed that the results of Alexander's expedition to India were quite ephemeral, instead of lasting, as they did, for generations, and laying the foundation of that Greek influence on Indian art, the development of which scholars are now painfully disentangling. The "Western Satraps," who ruled over Surāṣṭra and Mālwa from early in the second until the end of the fourth century of our era, are represented by a long series of coins which enable us to establish the sequence of the dynasty with great accuracy. When coins are dated, as are many of those struck by the Seleucid dynasty in Syria, they afford most valuable chronological data, not merely of the length of reigns, but frequently of the swaying fortunes of war, as indicated by the use of local mints. The history of the Danubian campaigns of Marcus Aurelius from 166 to 180 has been amplified and corrected in many details by a careful study of the coins; it appears, for instance, that the battle with which the story of the "Thundering Legion" is connected took place in 173 rather than in 174. The coins of Roman Bithynia not only give us the names of some of the proconsuls who governed it, but help to establish the curious fact that, side by side with the regular administrative officers, the emperor had special procurators en-

trusted with important military and diplomatic functions. A good instance of the way in which coins may confirm the details of history is provided by a unique penny of Ecgbeorht, calling him "Rex M(erciorum)" and bearing the name of London, combined with another unique penny of the same king bearing the name of Redmund, a moneyer who worked for the Mercian king Wiglaf. These two coins between them verify the statement of the *Anglo-Saxon Chronicle* that Ecgbeorht defeated Wiglaf in 827 and held the kingdom of the Mercians until the next year. In the same century the obscure history of East Anglia is enriched by the coins with the names of three, perhaps four, kings: Eadwald, Aethelstan I., Aethelweard, and Beorhtric. The argument from the non-existence of coins has also sometimes been effectively used, as, for instance, to illustrate the policy of Athens during the period of the First Confederacy, when the mints of many cities among the Allies appear to have been closed; but it is a dangerous argument, since a chance discovery may at any time bring to light coins of a period hitherto supposed to have lacked them. That is one of the two cautions which experience particularly imposes on the student; the other being that it is best not to draw conclusions from a single coin (especially if it is imperfectly preserved) without ascertaining whether they are supported by the rest of its class.

It is obvious, as was remarked at the beginning, that the coinage of a country must throw some light, however uncertain, upon its economic condition. The questions of the alterations of standards of weight and fineness, and of the relations between the metals, are perhaps the most difficult in numismatics; unfortunately the combination of economic with numismatic scholarship is excessively rare. The derivation of coin standards, in particular, is a subject on which the amount of wild speculation is notorious. The student will do well to use this kind of evidence cautiously, and only in its broadest bearing. We know too little of the reasons which dictated the changes of standards in antiquity to base theories of trade relations or political influences on them. We may be able to establish from the actual weights of coins the fact that Athens, when in the sixth century she introduced her currency of "owls," adopted a rather higher standard than had prevailed among her neighbours in Euboea and Corinth before; but what was the reason, whether a change in the relation between gold and silver, or some convenience of trade with another country, is matter for speculation. Identity of standard in different States may sometimes perhaps indicate commercial and economic relations between them. Thus, for instance, it seems clear that Euboea, Athens, and Corinth, using the same standard, and driving as it were a

lane between the northern and southern parts of the mainland of Greece, where another standard prevailed, must have been in close touch with each other commercially, lying as they did on the trade-route which passed from Asia across the Isthmus to Sicily. But to jump to the conclusion that everywhere identity of coin standards proves the existence of economic connexions were rash in the extreme. Good metal travels far, and the routes taken by coins may serve to map currents of trade, though we should be careful not to regard them as indicating direct relations between the countries concerned. In the time of Maria Theresa the dollar bearing the date 1780 became popular in Abyssinia and Arabia; it has ever since been minted in large quantities and exported to those countries; but it would be a mistake to regard it as evidence of direct trade relations between them and Austria. As a matter of fact, such dollars were supplied in large quantities to Great Britain for her Abyssinian campaign. Athenian coins found their way in the fourth century B.C. into Arabia, not necessarily carried by Athenian traders, but through Southern Palestine or Egypt, and formed the basis on which in the third century an imitative coinage was set up. Clearly there was—as might otherwise have been expected—a set of trade in this direction, and it is interesting to note how the new style of coinage introduced in Athens at the end of the third

century made its mark on the Arabian, and how that influence was again modified by Roman coins in the first century B.C. Still farther east, the large finds of Roman coins of the Early Empire in India show the importance of the trade with that country. Coins dating from the beginning of the Empire to the middle of the third century are found in India in some quantities. Then there is a cessation, until we come to the coins of the end of the fourth century, which occur in numbers. Are we to assume from this that the trade slackened in the interval? Whatever the answer, it will doubtless be affected by the fact that the period not represented in Indian hoards is precisely the time of the greatest degradation of the Roman silver coinage and of the greatest scarcity of Roman gold.

We may mention a few more examples showing the use that can be made of the testimony of coins in regard to trade. Arab historians inform us that there was in the Middle Ages a brisk trade between the Arabs and the Baltic lands, chiefly in furs. As a result, Arab coins made their way north, and huge hoards have been found in Northern Germany, Russia, and Scandinavia. But no gold coins appear in these hoards; any that did go northwards were doubtless melted down and made into ornaments, because the Baltic nations had no gold currency. So far, the coins are evi-

dence of trade. But similar coins have been found in Iceland, Scotland, and England. These latter are no proof of trade with Arab lands; it is clear that they were brought by the Vikings on their raiding expeditions. Our second example is found in the extensive imitation on the Continent, during the thirteenth and fourteenth centuries, of the English silver penny, especially of the types introduced by Henry II. and Edward I. The foreign "sterlings" were undoubtedly in most cases made with intent to deceive. The types are frequently exact reproductions of the English king's head, and the short cross with four, or the long cross with three, pellets in each angle. Some even copy part of the original inscription. These imitations were chiefly made at mints of the Low Countries, but also in Western Germany, Scandinavia, and Spain; they occur mingled freely in hoards of pennies found in this country, while English pennies form part of deposits of foreign sterlings in foreign lands. A constant flow of both kinds of coins across the Channel accompanied the Flanders trade. The fact that it was the English penny that was imitated is an interesting mark of the domination of English finance. In the same way, there could be no better witness to the importance of Italian commerce, especially in regions farther east, than the imitations which were made in Hungary, Rhodes, and elsewhere of the Florentine

or Venetian ducats, the introduction of which in the thirteenth century marked the beginning of the decline of Byzantium's command of the Eastern trade. But in the Low Countries England held her own, and her gold nobles were freely imitated by the Flemings in the fifteenth and even the sixteenth centuries.

From a subject allied to numismatics we may take a final example of the present category of evidence. The brass counters used in the West in casting up accounts were in the fourteenth and fifteenth centuries almost exclusively of French, Anglo-Gallic, or Flemish origin. In the course of the fifteenth century the Germans, especially in Nuremberg, discovered that there was profit to be made out of these humble instruments. They began by imitating the old types and mottoes, usually in inferior metal. In the course of the sixteenth century they completely captured the market, and the names of the German makers appeared plainly on the counters which were used in this country everywhere save in a few exceptional houses. The methods of German trade in the fifteenth and sixteenth centuries are admirably illustrated by these counters.

To go into detail on the history of art as illustrated by coins would take us too far afield. Coins reflect the general movement of art with varying clearness. Affording a long, continuous, closely

dated series of undoubted authenticity—the proportion of forgeries capable of misleading is negligible—they are especially valuable as signposts on the road along which Greek art travelled. They are none the less true witnesses because in the best period coin engravers made no attempt to copy works of sculpture. An intelligent study of Greek coins reveals the existence of many a local school of art which, in the scarcity of monumental remains, would otherwise have remained unknown to us. In the Roman series the coins reflect the peculiarities of Roman art: its dependence in the late Republic and early Empire on Greek models; its lack of power to invent new conceptions, other than personifications of the most conventional kind; its realistic but unimaginative portraiture; its adoption in the fourth century of the frontal scheme of composition which was to fetter Christian art for so many centuries. In the early Middle Ages the general level is deplorably low. Occasionally there is a gleam of light. A few of Offa's coins show an effort at portraiture and design. Some of the German bracteates of the twelfth century are very decorative. And Frederick II. made a characteristic attempt to go back to earlier models. But the Renaissance came with the splendid French and English Gothic coinage of the fourteenth century, followed in the second half of the fifteenth century by the revival of the profile

portrait in Italy under the influence of the great medallists. The coinage thus accurately records in its humble script the fact that France was pre-eminent in the fourteenth century—a fact not too well recognized until recent years—and that it was not until the fifteenth that Italy resumed the lead which she had temporarily lost. The sixteenth century shows almost everywhere a decay of taste combined with better technique and increasing splendour—the Tudor gold is characteristic. In the seventeenth century mere technique reaches in France and England a height never surpassed. After that time coin engraving becomes more and more a mechanical craft, bearing little relation to fine art; although such an event as the arrival of the Elgin Marbles could not fail to affect the work of a technician like Pistrucci. As in the greater arts, the Greek models, while improving technique, overwhelmed the imaginations of their admirers rather than inspired them with great ideas.

The importance of coins as official documents for the early history of religion and mythology cannot be over-estimated. It is true that it can no longer be held that the types of Greek coins were adopted primarily for religious reasons, or that the earliest coins were issued under the auspices of priesthoods. The types appeared on the coins because they were already the badges or arms of

the issuing authorities. But the mere fact that the figures or attributes of deities were adopted as such insignia is evidence—often the only extant evidence—of the existence of local cults. Thanks to the coins, we have a fairly complete picture of the distribution of cults throughout the Greek world. The exceptions which prove the rule are provided by purely imitative currencies, and by such issues as those of Cyzicus and Lampsacus, which were made for more or less international circulation, and consequently bore a long series of changing types, the origin of which is not clearly understood, but cannot have lain in local cults. On such a problem as the divinization of kings a flood of light is thrown by a proper interpretation of the coins of the Diadochi, which supply almost all the evidence for the gradual development of the custom in the Hellenistic age. A remarkable picture of the worships of the cities of Asia Minor, Syria, and Palestine in the first three centuries of the Roman Empire is given by the local coins, which show, for instance, how the cult of the Ephesian Artemis had taken root in many places, even as far away from its birthplace as Neapolis in Samaria.

When we come to the adoption of Christianity as the official religion of the Roman Empire, a most significant indication of the very gradual way in which the change was effected is revealed by the

coin types. The cross first appears as an adjunct to the still pagan types at the mint of Ticinum in 314. Six years later the chi-rho monogram is introduced simultaneously at five mints. Both these slight innovations followed recent grants of privileges to the Christians. After the death of the pagan Licinius, the new influence becomes more marked; complete types, not mere adjuncts, of Christian significance begin to be used. The reign of Julian is marked by a sudden outburst of aggressively pagan types and the suppression of those of Christian significance. The inauguration of the Moslem coinage, with an inscription directly aimed at Christianity, appears to have been provoked by the anti-Moslem policy of Justinian II., who introduced the bust of Christ on his coins with the object of offending Moslem susceptibilities. It need hardly be said that such a type vanishes from the coins during the age of the iconoclastic emperors.

The historian is often expected to give the equivalent in modern money for payments recorded in his documents. He should take warning that there is no fixed rule for forming such estimates. Even if it is possible to express a value in terms of labour—as when we say that a soldier received a daric a month—we have still to estimate the place of such labour in the social economy of the time.

And a glance at such a work as the *History of Agriculture and Prices*, by Thorold Rogers, shows how misleading it may be to estimate the value of payments by reference to commodities. Quite apart from the fluctuations of prices from season to season, it is clear that the parts played by most commodities in the life of the people in the Middle Ages were very different from what they are now. Therefore it is best, when making such guesses at equivalents, to add that the only certainty is that the coins mentioned contained so much gold or silver, which at the present time would be the equivalent of so much English money.



II

THE student, when he is told that coins are so valuable as historical aids, may legitimately ask to see "the other side of the medal," and enquire how the coins themselves are dated. As the reply to this question reflects some light on the main object of this pamphlet, it will not be impertinent to give it in some detail. The procedure is to find a certain number of fixed points from external evidence and, so to speak, triangulate from the bases which they provide. The argument is often cumulative, and, it must be admitted, would often fail to find acceptance in a court of law. That, however, is true of most archæological and, perhaps, of much historical argument.

The first fixed points are, of course, given by coins which bear reference to known historical facts or persons, or are dated according to some known era or system. Such references have necessarily to be controlled by knowledge gained from other sources. That control is not always so easy as in the case of sixteenth-century medals with the head of Christ, or eighteenth-century tokens bearing the portraits of John of Gaunt or Queen Eliza-

beth, which are supposed by the uninitiated to be contemporary with those persons; whereas an elementary knowledge of the history of the art of coins and medals tells us that they are of much later date. The problem is usually much more difficult. There are, for instance, two series of coins of Sybaris. The old city was destroyed in 510 B.C. To the period immediately preceding that year must belong the earlier group of coins, of a peculiar technique; for any attempt to attribute them to the Athenian colony of New Sybaris, resuscitated in 443, is checked by our knowledge of the style of the middle of the fifth century. (That knowledge, in its turn, is acquired from coins of other cities, such as the Greek colonies in Sicily, the development of which can be watched in the light of historically fixed data.) This fact, of the date of the earliest Sybarite coins, once ascertained, becomes a fixed point for controlling the date of other coins of the same peculiar technique. The second group of coins of Sybaris is of mid-fifth-century style; but we cannot be quite certain whether they were struck at New Sybaris, before it changed its name to Thurium, or at the secession foundation on the Trae's which split off from New Sybaris soon after 443. Here style cannot help us; but since the obverse type of the coins is Athena, it seems natural to suppose that the coins belong to the Athenian colony, not to the seces-

sion, which was conducted by the old Sybarite element. There can, in any case, be no doubt about the approximate date. Occasionally the internal evidence of the coins gives us both termini, *post quem* and *ante quem*. Thus coins of Himera, which combine the Himerean type of the cock with the Agrigentine crab, must belong to the period of Agrigentine rule in Himera, 482–472 B.C. Sometimes we obtain valuable information about the relative dates of two classes of coins from the fact that one is restruck on the other—*i.e.*, coins of one class have been used as blanks for making coins of the other class, and the old types are legible, as in a palimpsest, under the new ones.

The coinage of Alexander the Great and his successors is a good instance of the complexity in which the dating of coins is sometimes involved, owing to the *immobilization* of types. Coins with the types and name of Alexander were produced by all sorts of rulers and States from his death in 323 B.C. down to the first century B.C. His immediate successors, such as Lysimachus in Thrace down to about 311 B.C., and Seleucus in Syria and Babylonia down to 306 B.C., simply reproduce his coins, sometimes adding a distinguishing adjunct in the field. The coins continue to be copied, alongside of coins issued by such rulers with their own types and inscriptions. The style changes by degrees. The coins are produced not only by the

Diadochi, but by the free or semi-autonomous cities, which in the latest period sometimes mark them with obviously recognizable symbols, such as the rose of Rhodes or the wine-jar of Chios. Sometimes we get a series of dates, though it is usually very difficult to identify the era by which those dates are reckoned. It is only of late years that real advance has been made by intensive study in the geographical and chronological classification of the series. The point for the student to remember is that the margin of error in dating some series of coins is much wider than in others. But such a series as the Alexandrine is exceptional, although that bearing the name and types of Lysimachus had nearly as long a life. Normally, regal coins are the easiest to date, when they bear distinctive names; but when, as in the case of the Ptolemies of Egypt, or the Arsacids of Parthia, the dynastic name, with or without complimentary epithets, is preferred to the personal name, and there is more or less immobilization of the types, classification becomes excessively difficult. We depend (failing actual dates) on finds, on sequence of dies, on development of style—a treacherous guide in half-barbarous countries—or on portraiture, which is likewise apt to mislead.

To give some instances from later times of the dating of coins by their historical references: There are silver deniers bearing the title “*Carlus Rex*

Fr(ancorum)," and the names of the Italian cities of Pavia, Milan, Treviso, and Lucca, with the Carolus monogram. To which king do they belong? To Charlemagne, because he alone possessed, together with the title above mentioned, the places on coins of which these types occur. Again, a ninth-century denaro with the inscription "Ioannes Papa" round the abbreviation "Cap." must be one of the coins which were struck between 872 and 879 by Pandulf, Count of Capua (862-879), during the time of John VIII. (872-882), to whom he had submitted himself; coins to which Erchimbert refers (*Hist. Lang.* 47): "Pandonulfus prius se subdiderat dicto Papae, in cuius vocamine et chartae et nummi figurati sunt." The nobles of Edward III. which omit the title of King of France and call him merely Lord of Aquitaine must belong to the years from 1360 to 1369, while the Treaty of Brétigny was respected. The Irish coins of John which call him merely Domin(us) Yber(niae) must be assigned to the period when he was Lord of Ireland but not yet King of England (1177-1199). But in mediæval and modern, just as in ancient, times we have to be on our guard against the immobilization of types. Perhaps the most disconcerting example of all is provided by the English silver pennies of the "short cross" series, which begin under Henry II. in 1180 and continue, bearing always the same types and the same regal

name, "Henricus Rex," through the reigns of Richard and John into that of Henry III., down to the year 1247. Only by a prolonged study of the names of the moneyers, of the records of the mints, and of the minutest changes in style and lettering, has the dating of these coins been cleared up. The pennies of the first three Edwards are nearly as uniform. The groats and half-groats of the first issue of Henry VIII. reproduce the features of his father, although the inscription reveals the later date of the coins. The French series provides a number of puzzles of the same sort; the immobilization of the royal type of the denier at the end of the Carolingian period is well known. The name of the Sovereign who granted, or was alleged to have granted, to a city the right to open a mint is often perpetuated on coins struck generations after his death; thus the name of Carloman appears on twelfth-century deniers of Autun, just as if they had been struck during his reign. The same custom prevailed in Italy. In Spain, it would appear that coins of the types of Ferdinand and Isabella went on being issued after the Queen's death in 1504 even down to 1555. A final and very curious example: After the death of the Cardinal de Bourbon, Charles X., in 1590, the League continued to strike coins in his name. Fortunately the pieces thus issued bore dates, showing that they were struck from 1590 to 1594 and in 1598.

In antiquity and the Middle Ages—indeed, until the sixteenth century was well advanced—the placing of dates on coins was irregular and sporadic. Of ancient civil eras the most famous, the Seleucid, was used within a few years of its inauguration in 312 B.C. to date the coins of certain Phœnician cities. There are numerous other ancient eras of more local vogue which would be very useful if we could always decide which we have to do with. It is not often that an equation is provided, as for instance at Gaza, where the coins of the time of Hadrian bear dates calculated from his visit to the city in 130 and also the years of the local era. Usually a somewhat complicated calculation is required to fix an era. Regnal years are, of course, very useful when they occur. Under the early Empire the Roman coins are frequently dated by the years of various offices held by the emperors (such as the consulship or the Tribunician power) or by imperatorial acclamations, but the system is seldom carried through, and after the time of the Antonines gradually falls out of use. The signing of coins by State officials was doubtless originally introduced to fix responsibility for the quality of the coinage. Where the dates of such officials have been preserved—as they very rarely have—we get fixed chronological points. The most elaborate system was evolved in Athens during the period of the “New Style”—*i.e.*, from 229 B.C.

to the time of Augustus. In its most complete form the system required the coins to bear (*a*) the names of two honorary magistrates, (*b*) the signet of the first of these, (*c*) the name of a third official, who was probably a member of a controlling committee of twelve of the Areopagus holding office in monthly rotation according to the months of the *solar* year, (*d*) a letter denoting the *lunar* month in which the coin was issued, and (*e*) an additional mint-mark, perhaps indicating the particular mine by which the metal was supplied. A study of these complex controls, in connexion with astronomical data, has fixed the precise years of some of the coins concerned and, it is said, has shown that the hitherto established chronology of the Athenian archons is one year too early. Dating by months is rare outside Athens, although it occurs occasionally in the Pontic and Parthian series. It is curious to find it on the "gun money," or money of necessity, issued in the name of James II. in Ireland after his expulsion from England.

The numismatist, in classifying his coins, of course works as far as possible with the help of archives, in addition to casual references in literature. Use has to be made of edicts and grants of the right of coinage, legislation of all kinds, surveys like Domesday, and above all—when available—mint records. For ancient times our knowledge of the organization and procedure of

mints has to be deduced almost entirely from the coins. Nothing like the Exchequer Accounts or Patent Rolls of our Public Record Office has survived. In the classification of the English coins the records of the Trials of the Pyx are particularly useful, especially when they indicate the privy marks which distinguished the coins which were assayed.

But documents of whatever kind too often fail to find confirmation in extant coins. Sometimes this is due to chance, no specimens having been preserved from destruction. Sometimes obscurity in the wording of the document makes it difficult to identify the coins to which it refers. One of the cruces of Jewish numismatics is the date of the "thick" silver shekels. The traditional attribution to Simon Maccabaeus has been supposed to receive confirmation from the statement in 1 Macc. xv. 5-6 that Antiochus VII. of Syria granted to Simon the right to strike coins for his own country. But other evidence—such as fabric and lettering—favours an attribution to the time of the First Revolt (A.D. 66-70); and this has recently been confirmed by a find. (It may be observed that the peculiar character of Jewish art makes the criterion of style of little service in this case.) We are, therefore, driven to suppose either that the grant made by the Syrian king related to a bronze coinage only, or that Simon did not avail

himself of it, or that the silver coins which he issued have not survived. Evidently edicts must not always be interpreted in what seems the obvious sense. The Édit de Pîtres (June 25, 864) ordered that the deniers should bear on one side the king's name in a circular legend around his monogram; on the other side, the name of the mint around a cross. It also ordered that henceforward these coins should be struck only in the Palace and at Quentovic, Rouen, Reims, Sens, Paris, Orléans, Chalons, Melle, and Narbonne. What are the facts? Not one of the extant coins of the types described was struck at any one of these mints: they were issued from Agen, Arles, Mayence, etc. What is more, the coins of this type struck at Agen, Mayence, and elsewhere are *earlier* than 864, being in fact of the time of Charlemagne. The edict therefore (1) was intended not, as might have been supposed, to introduce a new type, but to stabilize an old one; (2) was not fully obeyed.

Another enactment that was apparently not fully carried out was that of the Synod of Greatley in 928. It was ordered that there was to be a uniform coinage throughout the realm, and that no coin should be made save in a town. To each burg was assigned one moneyer; some had more, even up to eight, which was London's quota. But no less than four of the mints mentioned—Chichester, Colchester, Hastings, and Lewes—are unrepresented

among the great quantity of coins of Aethelstan that have come down to us. The towns probably did not take advantage of the right which was granted to them. Similarly, in Italy we find that the earliest coins of Ascoli are of the municipality and date from the thirteenth century, although as early as 1037 the bishops of that city received the right of coinage from Conrad I. The Bishop of Bergamo could have struck coins in virtue of a grant from Frederick Barbarossa in 1156, but, so far as we know, he did nothing of the kind; a communal coinage began in 1237. A charter of Henry IV. endowed the Archbishops of Ravenna with coinage rights in 1063; but the earliest coins are of the thirteenth century. It is, of course, possible that some grants of this kind are fictitious, invented at the time when the coinage actually began.

Hoard, when secured in their entirety—a condition all too rarely fulfilled, thanks to human cupidity and negligence—provide one of the most interesting forms of evidence for the dating of coins, as well as for the state of the currency at the time of burial. A few instances will make this clear. The ancient British site on Hengistbury Head in Hampshire yielded, some years before the recent excavations, a potful of some 677 coins. There were 13 Roman Republican denarii, ranging from the second century B.C. to Octavian;

2 Imperial denarii, of Tiberius and Vitellius;
30 Imperial copper coins (the latest being of Hadrian); and 16 imitations of Roman coins, probably made in Gaul. The mass of the find consisted of British coins of various kinds, with a few strays from the Channel Islands or Gaul. Nearly 300 of the British coins were of kinds previously known; and about an equal number were of an entirely new class, cast in moulds instead of being, in the manner usual with British coins, struck with dies. The but little worn condition of the latest Roman coins in the hoard proves that it must have been deposited not long after the middle of the second century. The cast coins had experienced practically no circulation at all. We are, therefore, entitled to assume, failing rebutting evidence, that they were new about A.D. 125-150; and also that the other British coins, of types previously known, continued in more or less frequent circulation into the second century. That is about as near a definition of date as it is possible to obtain in a barbarous series like the British.

In more civilized currencies, the evidence obtained from finds is more exact. Datings are obtained by comparison between various hoards. In the series of our Norman kings the evidence of finds has been used to fix the sequence of the issues. The Soberton find contained pennies of Edward Confessor, Harold, and William I. All the coins

of the last were of one type, the "profile-cross-fleury." All other finds which contain coins of the Confessor and of Harold and William also contain this type of William. It follows that this is William's first issue. Two other finds at York combine to show that the "bonnet" type was the second to be issued in William's reign. The two types are connected by a "mule"—*i.e.*, a coin struck with the obverse die peculiar to one type and the reverse die of another. Such mules, we may remark in passing, are invaluable as showing the connexion between issues.

Hoards are, of course, not without their pitfalls. When they are neither incomplete, nor "salted" by the introduction of pieces which were not found at the same time and place, but have been mixed with them by carelessness or with intent to deceive, they may still occasionally mislead. A man who hoards coins may suddenly come into possession of somebody else's savings and add these coins to his own before he buries the lot. Or the sequence of issues may be very irregularly represented, because the collecting has not been continuous. Gold, as being more apt to be hoarded, is less useful as a witness than less precious metals. Like every other kind of evidence, this kind requires skilful handling.

Style, as evidence for the dating of coins, depends for its cogency on the "eye" of the numismatist.

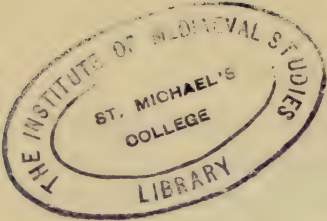
Combined with fabric—*i.e.*, the technical make of a coin—it is invaluable. One has, however, to reckon with deliberate archaism—as in the Attic coinage of the fifth century—and with the irregular development of art, especially in outlying districts. Even the Middle Ages were capable of deliberately reverting to antique designs and fabric—witness the copper coins of William II. struck at Palermo, with the types of lion's head and date-palm, which a beginner may easily take for ancient Greek coins. Our knowledge of the development of style has, of course, been formed from series which have been chronologically fixed by various other kinds of evidence; but the instrument, once forged, may be used in the first instance by itself. The best numismatists begin a work of classification by style, and then confirm or disestablish their conclusions by the application of other criteria. The general impression is tested by details of technique, by ornament, by lettering. And when some sort of arrangement has been established, the result is submitted to the test of such historical facts as are available. Inverted as this process may seem to the inexpert, it is only the logical development of the training which enables the expert to say, without detailed examination, that the Attic coins bearing the inscription ΑΘΕ Ο ΔΕΜΟΣ, in spite of the archaic spelling, cannot be earlier than the third century B.C.

The reader whose patience has carried him thus far may feel that the snares which beset the numismatic ways are so numerous that it is better to avoid them altogether. But he need not be unduly alarmed. Emphasis has deliberately been laid on the uncertainties of the subject (which are no greater than in any other special branch of historical research) in order that the interpretation of coins may not be undertaken with the light heart that betokens inexperience. No student can afford to neglect the numismatic evidence on his subject altogether. As an example of the consequences of such neglect let us recall the prize essay which identified the Mint of Calais as a savoury herb, from the cultivation of which a certain revenue accrued to the English Exchequer.

III

A WORD may be added about medals. From the inauguration of the modern medal by Pisanello in 1438, they provide, in the first place, a very useful factor in biographical research. Many of the Italian medals, especially, rise to the first rank in the art of portraiture; not a few medals are the only authentic portraits of the persons they represent. Generally speaking, however, it must be admitted that as documents for political history they are unsatisfactory. In the sixteenth century princes were quick to realize the effectiveness of the medal as a means of propaganda. Henry VIII., for instance, issued in 1545 a medal proclaiming in three languages his claim to be Defender of the Faith and under Christ Supreme Head of the Church of England and Ireland. In the hands of rulers and parties medals were used with a vigour which gives them value less as a mirror of facts than as a revelation of political purposes and party feeling. In the latter respect they should be very useful to the historian of politics. It is impossible, for instance, to have any idea of the popular agitation about Admiral Vernon, his sensational success

at Portobello and his failure at Cartagena, without a study of the innumerable medals that were flung broadcast by his admirers. But they bear almost as little relation to the historic truth as Napoleon's medal "struck at London" in 1804 to commemorate his invasion of England.



IV.—BIBLIOGRAPHY

A COMPLETE list of publications is, of course, out of the question here. But in each branch of the subject some of the standard authorities* are mentioned, together with some of the newer publications which supplement them in details. Such details on any particular point must be sought by the student in the periodical literature, in the MS. bibliographies of certain branches which are accessible at the British Museum, and in the coins themselves.

The leading **Periodicals** are:

R.N.—*Revue numismatique française*. Paris, 1836—.

N.C.—*Numismatic Chronicle*. London, 1838—.

A.J.—*American Journal of Numismatics*. New York, 1868—.

N.Z.—*Numismatische Zeitschrift*. Vienna, 1870—.

Z. f. N.—*Zeitschrift für Numismatik*. Berlin, 1874—1915.

R.B.—*Revue de la numismatique belge* (from 1875, *R. belge de numismatique*). Tirlemont and (from t. iii.) Brussels, 1842—.

R.I.—*Rivista italiana di Numismatica*. Milan, 1888—.

* When the place of publication is not mentioned it is London.

- R.S.*—*Revue suisse de numismatique*. Geneva, 1891—.
- J. Int.*—*Journal international d'archéologie numismatique*. Athens, 1898—.
- B.N.J.*—*British Numismatic Journal*. London, 1905—.
- Nom.*—*Nomisma*. Berlin, 1907—.
- A.I.I.*—*Atti e Memorie dell' Istituto Italiano di Numismatica*. Rome, 1913—.

For the Russian numismatic periodicals (Transactions of the Imperial Russian Archæological Society, Numismatic Section; Transactions of the Moscow Numismatic Society and Numismatic Miscellany of the M.N.S.) see the bibliography in E. H. Minns, *Scythians and Greeks* (Cambridge, 1913), p. xxvii.

On the question of the **Origins and Evolution of Coinage** information will be found in the general works mentioned below; but they are specially treated in W. Ridgeway's *Origin of Metallic Currency and Weight Standards* (Cambridge, 1892); E. Babelon's *Origines de la monnaie* (Paris, 1897); G. Macdonald's *Coin Types* (Glasgow, 1905); and *Evolution of Coinage* (Cambridge, 1916). J. Déchelette, "Les Origines de la drachme et de l'obole" (*R.N.*, 1911), may also be consulted. C. F. Keary's "Morphology of Coins" (*N.C.*, 1885-6) is very instructive on the general development of coin form.

Metrology and Coin Standards.—Before attacking

any of the older works on this subject, the first section (pp. 3-44) of O. Viedebantt, *Forschungen zur Metrologie des Altertums* (*Abhandlungen der k. sächs. Gesellsch. der Wissenschaften*, Phil.-hist. Klasse xxxiv., Leipzig, 1917), should if possible be read. When the principles there laid down—especially as to the practical method of ascertaining old standards by the “frequency tables”—have been mastered, and the warning given above (p. 11) taken to heart, the views of other writers may be consulted in F. Hultsch, *Griechische und römische Metrologie*, second edition (Berlin, 1882); the writings of Lehmann-Haupt in *Verhandl. der Berliner anthropol. Gesellschaft*, 1889, and in later publications, as well as those of his opponent F. H. Weissbach (references to both in Viedebantt). P. Gardner's *History of Ancient Coinage, 700-300 B.C.* (Oxford, 1918) is the latest English attempt to grapple with the subject as a whole; while G. Macdonald's “Silver Coinage of Crete” (*Proc. Brit. Acad.*, ix., 1920) may be taken as an example of modern method applied to a single branch. For the coin standards of mediæval and modern times information must be sought in the books classified below.

Greek and Roman Coins.—The great classic is J. H. von Eckhel's *Doctrina numorum veterum*, 8 vols., Vienna, 1792-8. Its modern rival, E. Babelon's *Traité des monnaies grecques et romaines*

(Paris, 1901—), has the advantage of being finely illustrated. The general Introduction (excluding metrology and typology) fills t. i. The descriptive volumes so far published bring the history down to the fourth century B.C. for some parts of the Greek world. The most convenient work of reference for Greek coins is B. V. Head's *Historia Numorum* (Oxford, 1911, with bibliographies up to date). The Catalogues of the British Museum (begun in 1873) by Poole, Head, Gardner, Wroth, and Hill, are now nearly complete (the volumes on Arabia, Mesopotamia, and Persia by Hill, and on Cyrenaica and the rest of North Africa by E. S. G. Robinson are in preparation). Other large collective enterprises are: (1) the Berlin Corpus (Berlin, 1898—; general editor, F. Imhoof-Blumer); so far only portions of *Die antiken Münzen Nord-Griechenlands* (Dacia and parts of Moesia, Thrace, and Macedon) and the first part of *Die antiken Münzen Mysiens* have appeared; (2) the *Recueil général des monnaies grecques d'Asie Mineure*, by H. Waddington, Th. Reinach, and E. Babelon (Paris, 1904—), which so far has covered Pontus, Paphlagonia, and Bithynia. Head's *Guide to the Gold and Silver Coins of the Ancients* (British Museum, fourth edition, 1895) has seventy-five excellent plates covering the period before the Christian era. Useful and well-illustrated catalogues of the smaller public and private collections are

G. Macdonald's *Catalogue of the Greek Coins in the Hunterian Collection* (Glasgow, 1899-1905); K. Regling's *Sammlung Warren* (Berlin, 1906; the Boston Collection); and *Collection R. Jameson* (Greek and Imperial Roman: Paris, 1913).

On the general theory of ancient coinage, F. Lenormant's *La monnaie dans l'antiquité* (Paris, 1878-9) is still very instructive. Hill's *Handbook of Greek and Roman Coins* (1899) has full references and bibliographies (the metrological chapter should be ignored). Gardner's *Types of Greek Coins* (Cambridge, 1882) and Macdonald's *Coin Types* (see above) should be consulted on the development and significance of types. The use of Greek coins for teaching history is exemplified in different ways by Hill's *Historical Greek Coins* (1906) and Gardner's *History* above mentioned. An invaluable list of all the names of officials found on Greek coins is given by R. Münsterberg, "Beamtennamen auf griechischen Münzen" in *N.Z.*, 1911-1914. None of the periodicals mentioned above (except, perhaps, *A.J.* before 1912) can be neglected by the student of Greek coins. There is no room here for a list of the monographs on special parts of the Greek world, but a very few of the most recent may be selected:

Syracuse: L. Tudeer, "Tetradrachmenprägung von Syrakus in der Periode der signierenden Künstler," in *Z. f. N.*, 1913. **S. Russia, Kingdom**

of Bosphorus, etc.: E. H. Minns, *Scythians and Greeks* (Cambridge, 1913). **Balkans:** N. A. Mushmov, *Ancient Coins of the Balkan Peninsula and of the Tsars of Bulgaria* (Sofia, 1912; in Bulgarian); L. Ruzicka, "Münzen von Serdica" in *N.Z.*, 1915; and "Inedita aus Moesia inferior" in *N.Z.*, 1917 (numerous additions to the Berlin Corpus). **Macedon:** J. N. Svoronos, *L'hellénisme primitif de la Macédoine prouvé par la numismatique* (Paris, Athens, 1919). **Alexander the Great and Alexandrine Coinages:** E. T. Newell, important articles in *A.J.*, 1912 and 1918, and *N.C.*, 1915; also *Dated Alexander Coinage of Sidon and Ake* (Yale University Press, 1916). **Elis:** C. T. Seltman, "The Temple Coins of Olympia," in *Nom.*, viii., ix. (1913-14). **Crete:** G. Macdonald, "The Silver Coinage of Crete," in *Proc. Brit. Acad.*, ix., 1920. **Asia Minor:** H. von Fritze, "Elektronprägung von Kyzikos" in *Nom.*, vii. (1912); "Silberprägung von Kyzikos," *ib.*, ix. (1914). J. Mavrogordato, "Chronological Arrangement of the Coins of Chios" in *N.C.*, 1915-18. **Syria:** E. T. Newell, "Seleucid Mint of Antioch" in *A.J.*, 1917, and "Pre-Imperial Coinage of Roman Antioch" in *N.C.*, 1919. **Arabia and Mesopotamia:** Hill, "Ancient Coinage of South Arabia" in *Proc. Brit. Acad.*, vii. (1915), and "Mints of Roman Arabia and Mesopotamia" in *Journ. Roman Studies*, vii. (1917). Allotte de la Fuÿe, "Monnaies de l'Ély-

maïde" in *R.N.*, 1919. **Persia** : Hill, "Imperial Persian Coinage" in *Journal of Hellenic Studies*, 1919. **Northern Africa** : E. S. G. Robinson, "Quaestiones Cyrenaicae" in *N.C.*, 1915. Finally, it should be mentioned that the miscellaneous descriptions of coins by F. Imhoof-Blumer all deserve the most careful attention.

For **Roman** coins, treated separately from Greek : Th. Mommsen, *Histoire de la monnaie romaine*, translated by Duc de Blacas and J. de Witte (Paris, 1865-75); this is antiquated in regard to dating of the earliest coinage. On the chronology of the Republican period: E. J. Haeberlin's "Systematik des ältesten römischen Münzwesens" (in *Berliner Münzblätter*, 1905) is dogmatic, but marks a great advance. His great descriptive work *Aes grave, das Schwerkeld Roms und Mittel-italiens* (Frankfurt-a.-M., 1910) and H. A. Grueber's British Museum Catalogue, *Roman Republic* (1910), together give a complete picture of the coinage before the time of Augustus. M. Bahrfeldt has recently corrected many details in the Republican series, in *N.Z.*, 51 (1918). His earlier *Nachträge und Berichtigungen zur Münzkunde der römischen Republik* (Vienna, 1897), a criticism of Babelon's work on the subject, must not be neglected by the student of minute details. A general outline of the development of the Roman monetary system by E. A. Sydenham is in progress in *N.C.*, 1918—.

An introduction to the historical bearings of the Republican series is given in Hill's *Historical Roman Coins* (1909). The transition to the Empire is cleverly handled by H. Willers, *Geschichte des römischen Kupferprägung bis auf Kaiser Claudius* (Leipzig, 1909). The difficult questions connected with the organization of the coinage by Augustus have recently been much discussed: see L. Laffranchi, *La Monetazione di Augusto* (Milan, 1919); H. Mattingly in *Journal of Roman Studies*, vii.; and the same and E. A. Sydenham in *N.C.*, 1917-19. Indispensable, though remarkably inaccurate, is H. Cohen's *Monnaies frappées sous l'empire romain* (second edition, Paris, 1880-92). F. Gneecchi's "Appunti di Numismatica Romana" (running through the greater part of the *R.I.*) have brought to light many unpublished coins.

From the literature dealing with special periods of the Empire we select the following:

First century, post-Augustan: E. A. Sydenham, *Coinage of Nero* (1920); H. Mattingly, "Coinage of the Civil Wars of 68-9 A.D. (*N.C.*, 1914). L. Laffranchi, "Un centenario numismatico nell' antichità" [Vespasian] (*R.I.*, 1911). B. Pick, "Zur Titulatur der Flavii" (*Z.f.N.*, xiii., 1885).

Second century: C. H. Dodd, "Eastern Campaigns of L. Verus" (*N.C.*, 1911) and "Danubian Wars of Marcus Antoninus" (*N.C.*, 1913).

Third century: K. Menadier, *Die Münzen und*

das Münzwesen bei den Scriptores Historiae Augustae [treacherousness of these authorities as regards coinage] (Berlin Diss., 1913). O. Voetter, "Münzen des Kaisers Gallienus und seiner Familie" (N.Z., 1900). A. Markl, "Die Reichsmünzstätten unter der Regierung Claudius II. Gothicus" (N.Z., 1884); ditto for Quintillus (N.Z., 1890). Th. Rohde, *Münzen des Kaisers Aurelianus, seiner Frau Severina, und der Fürsten von Palmyra* (Miskoloz, 1881). O. Seeck, "Münzpolitik Diocletians und seiner Nachfolger" (Z.f.N., 1890). P. H. Webb, "Carausius" (N.C., 1907, and separately 1908); and "Allectus" (N.C., 1906). O. Voetter on the bronze coinage of the Diocletianic tetrarchy in N.Z., 1899, 1911, 1917, 1918.

Fourth century: the coinage of the Constantinian period generally is treated with great historical knowledge by J. Maurice, *Numismatique Constantinienne* (Paris, 1908-12). H. Willers, "Römische Silberbarren mit Stempeln" (important for late fourth-century currency) (N.Z., 1898, 1899). A. J. Evans, "Roman Currency in Britain from Valentinian I. to Constantine III." (N.C., 1915).

A complete illustrated corpus of Roman medallions is provided by F. Gneecchi, *Medaglioni Romani* (Milan, 1912).

The periodicals which deal with Greek (except *J. Int.*) should also be consulted for Roman numis-

matics; the Italian ones naturally specialize on this branch.

Byzantine coinage is fully described by J. Sabatier, *Monnaies byzantines* (Paris and London, 1862), W. Wroth, *British Museum Catalogue of Imperial Byzantine Coins* (1908), and Count J. Tolstoi, *Monnaies byzantines*, in Russian (St. Petersburg, 1913—in progress). Wroth's *British Museum Catalogue of the Coins of the Vandals, Ostrogoths, and Lombards* (1911) also contains the sub-Byzantine coinages of Thessalonica, Nicaea, and Trebizond.

The vast subject of the **medieval and modern** coinage of the **European Continent** is summarized by A. Engel and R. Serrure, *Numismatique du moyen âge* (Paris, 1891–95), and *Numismatique moderne* (Paris, 1897–99). A shorter general theory of numismatics is given in A. Luschin von Ebengreuth's *Allgemeine Münzkunde und Geldgeschichte* (Munich, 1904). Monetary standards and the “effects of currency and exchange phenomena on commercial and national progress and well-being” in the period 1252–1894, in America as well as Europe, are the subject of W. A. Shaw's *History of Currency* (no date; bibliography).

Two attempts at dictionaries of names of coins, chiefly useful for medieval and modern numismatics, should perhaps be mentioned here: E. Martinori, *La Moneta* (Rome, 1915), and A. R. Frey, “Dic-

tionary of Numismatic Names " in *A.J.*, 50 (1916). The latter writer has also compiled a list of dated European coins earlier than 1501 in *A.J.*, 47 (1913).

Leaving Britain aside for the moment, we note the following monographs, for the most part later than the summaries above mentioned:

France.—A. Blanchet et A. Dieudonné, *Manuel de numismatique française* (Paris, 1912–16) gives the history of the regal coinage down to the Revolution, and when complete will also describe the feudal series; full references.

Spain and Dominions.—M. Vidal Quadras y Ramón, *Catálogo de la Colección de Monedas y Medallas* (Barcelona, 1892). J. Botel y Sisó, *Les monedes catalanes* (Barcelona, 1908–11). A. Herrera, *El Duro: estudio de los reales de a ocho españolas*, etc. (Madrid, 1914).

Low Countries.—On the imitations of the sterlings, J. Chautard, *Imitations des monnaies au type esterlin* (Nancy, 1872) remains indispensable. A. de Witte, *Histoire monétaire des Comtes de Louvain, Ducs de Brabant* (Antwerp, 1894–99). E. Bernays et Jules Vannérus, *Histoire numismatique du Comté puis Duché de Luxembourg* (Brussels, 1910).

German Lands.—A supplementary volume to H. Dannenberg's *Deutsche Münzen der Sächsischen und fränkischen Kaiserzeit* appeared in 1905.

H. Buchenau, *Der Bracteatenfund von Seega* (Marburg, 1905) deals with the bracteate currency of the Hohenstaufen period. E. Bahrfeldt, *Münzwesen der Mark Brandenburg* (Berlin, 1889-95, and Halle-a.-S., 1913), and *Münzen- und Medaillen-Sammlung in der Marienburg*, including series of Brandenburg, Prussia, and Danzig (Danzig, 1901-10). F. von Schrötter und G. Schmoller, *Das preussische Münzwesen im 18 Jahrhundert* (Berlin, 1902-13). F. von Schrötter, *Die Münzen Friedrich Wilhelms des Grossen Kurfürsten und Friedrichs III. von Brandenburg* (Berlin, 1913). P. Joseph und E. Fellner, *Münzen von Frankfurt-am-Main* (Frankfurt, 1896). J. P. Beierlein, *Medaillen und Münzen des Gesammthausess Wittelsbach* (Munich, 1897-1901). E. Fiala, *Beschreibung der Sammlung böhmischer Münzen und Medaillen des M. Donebauer* (Prag, 1890); *Katalog der Münzen- und Medaillen-Stempel-Sammlung des K. K. Hauptmünzamtes in Wien* (Vienna, 1901-8); and *Münzen und Medaillen der Welfischen Lande—i.e., Brunswick, etc.* (Berlin, 1904-12); L. Réthy, *Corpus numorum Hungariae*, two parts published, to sixteenth century (Budapest, 1899-1907). Besides the German periodicals already mentioned, note the *Frankfurter Münzzeitung* (Frankfurt-a.-M.), *Blätter für Münzfreunde* (Dresden), *Monatsblatt der numismatischen Gesellschaft in Wien* (Vienna), and *Numismatikai Köz-löny* (Budapest).

Switzerland.—L. Coraggioni, *Münzgeschichte der Schweiz* (Geneva, 1896); W. Tobler-Meyer, *Münz- und Medaillen-Sammlung des H. Wunderly v. Muralt* (Zürich, 1895–99). The Townshend collection of Swiss coins (R. S. Poole, *Descriptive Catalogue of the Swiss Coins in the South Kensington Museum*, 1878) is now deposited in the British Museum. Periodical: *Revue suisse de numismatique*.

Italy.—Bibliography in F. and E. Gneecchi, *Saggio di bibliografia numismatica delle zecche italiane* (Milan, 1889); supplements in *R.I.*, 1906 and 1916. A useful survey of the period 476–1266 is given in Part I. of G. Sambon's *Repertorio generale delle monete coniate in Italia . . . dal secolo V° al XX°* (Paris, 1912). The King of Italy's *Corpus Nummorum Italicorum* will give a complete list of coins. So far seven volumes have appeared (Rome, 1910—), covering the North of Italy (House of Savoy, Piedmont, Liguria, Corsica, Lombardy, Venice). Venice is also fully dealt with by N. Papadopoli, *Monete di Venezia* (Venice, 1893–1919). The admirable Vatican *Catalogo delle monete e bulle pontificie* (Milan, 1910–13) by C. Serafini should be supplemented by E. Martinori's *Annali della Zecca di Roma, 1370–1870* (Istituto Italiano di Numismatica, Rome, 1917—, in progress). For the kingdom of the Two Sicilies, see Memmo Cagiati, *Monete del Reame delle due*

Sicilie (Naples, 1911-16, in progress); and for Benevento the same author's "Zecca di Benevento" in *R.I.*, 1915-16.

The Italian periodicals mentioned above should also be consulted on Italian coins.

Malta.—H. C. Schembri, *Coins and Medals of the Knights of Malta* (1908) does not entirely supersede E. H. Furse, *Mémoires numismatiques de l'Ordre Souverain de Saint Jean de Jerusalem* (Rome, 1885).

Denmark.—P. Hauberg, *Myntforhold og Udmyntninger i Danmark indtil 1146* (Copenhagen, 1900, summary in French). J. Wilcke, *Christian IV.'s Møntpolitik, 1588-1625* (Copenhagen, 1919).

Sweden.—*Förteckning öfver Antellska Myntsamlingens i Helsingfors: Svenska Mynt* (two parts published, to sixteenth century, Helsingfors, 1906-8); K. A. Wallroth, "Sveriges Mynt 1449-1917" in *Svenska Num. Meddelauden* (Stockholm, 1918).

Money of necessity and siege-money of all European States are collected in *Feld-, Not- und Belagerungsmünzen*, by A. Brause (Berlin, 1897-1903).

Great Britain and Ireland.—A scholarly summary work on the coinage of these islands is badly wanted. The foundations for a study of the early British coinage were laid by Sir John Evans in his *Ancient British Coins* (1864; supplement, 1890). Some in-

teresting details have to be added, as the identification of the currency of iron bars: latest in A. Bulleid and H. St. G. Gray, *The Glastonbury Lake Village*, ii., pp. 395-403 (Glastonbury, 1917); coin of Cartimandua (in *N.C.*, 1897); and the coinage of the Hengistbury Head settlement (J. P. Bushe-Fox, Soc. of Antiquaries, *Excavations at Hengistbury Head*, Oxford, 1915). For other additions to the literature of early British coins consult the indexes to *N.C.* and *B.N.J.* R. Ruding's *Annals of the Coinage* (London, 1840) covers the whole ground for England, but requires revision throughout. The Anglo-Saxon coins in the British Museum have been catalogued by C. F. Keary and H. A. Grueber (1887-1893); these volumes should be supplemented by B. E. Hildebrand's *Anglosachsiska Mynt* (Stockholm, 1881), which is based on the vast quantities of coins which, especially from Aethelred II.'s time, found their way to Scandinavia; by H. A. Grueber's account of an important hoard of late eighth and ninth century coins (*N.C.*, 1894); and by various other articles in *N.C.* and *B.N.J.* The Norman period is exhaustively treated in the British Museum *Catalogue*, "Norman Kings," by G. C. Brooke (1916).

Articles on special periods of English numismatics which have not yet been assimilated by standard books are:

On the "Short Cross" Period (1180-1247), L. A.

Lawrence in *B.N.J.*, second series, i. (1914), and *N.C.*, 1916. "Long Cross" coinage of Henry III. and Edward I.: Lawrence in *B.N.J.*, x., and second series, i. (1913-14). On the first three Edwards, J. Shirley-Fox and H. B. Earle Fox in *B.N.J.*, 1909-13 (summary of the classification of pennies in *N.C.*, 1917). Brooke's account of the East Raynham find of nobles, *N.C.*, 1911. Crump and Johnson on the bullion coined in these reigns, *N.C.*, 1913. Richard II.: F. A. Walters, *N.C.*, 1904. Henry IV.: Lawrence and Walters, *N.C.*, 1905. Henry V.: Walters, *N.C.*, 1906. Henry VI.: Walters, *N.C.*, 1902-3, 1911. Edward IV.: Walters, *N.C.*, 1909-10, 1914. Henry VII.: Lawrence, *N.C.*, 1918. Tudors and early Stewarts: much new material from archives is collected by H. Symonds in *N.C.*, 1910-17, and *B.N.J.*, 1911-14. Anglo-Gallic series: L. Hewlett has given in *N.C.*, 1905-19 (also separately, *Anglo-Gallic Coins*, 1920), a careful revision of the whole subject, except the Calais issues, for which see J. Bailhache in *R.N.*, 1916.

Such articles must be used to supplement the lists found in collectors' handbooks like E. Hawkins's *Silver Coins of England* (third edition, by Kenyon, London, 1887), R. Ll. Kenyon's *Gold Coins of England* (London, 1884), and H. Montagu's *Copper, Tin, and Bronze Coinage . . . of England* (1893), or in H. A. Grueber's *British Museum Hand-*

book to the Coinage of Great Britain and Ireland (London, 1899).

For the documents relating to the English Mint in the Public Record Office, see *Lists and Indexes*—
 ii. (1893): "Declared Accounts," pp. 52-56, 230-238;
 xi. (1900): "Foreign Accounts," pp. 56-61; and
 xxxv. (1912): "Various Exchequer Accounts," pp. 175-186.

For the "Saxon, Norman, and Plantagenet Coinage of **Wales**," see P. W. P. Carlyon-Britton in *B.N.J.*, 1905.

Scotland is comparatively well represented by R. W. Cochran-Patrick's *Records of the Coinage of Scotland* (Edinburgh, 1876) and E. Burns's *Coinage of Scotland* (Edinburgh, 1887), together with A. B. Richardson's *Catalogue of the Scottish Coins in the National Museum, Edinburgh* (Edinburgh, 1901). G. Macdonald's account of the *Mint of Crossraguel Abbey* (*N.C.*, 1919) throws fresh light on the state of the coinage in the late fifteenth century.

Ireland is in bad case. Scattered papers by Aquilla Smith in *Trans. and Proc. Royal Irish Acad.*, 1840-53; *Trans. Kilkenney Archæol. Soc.*, 1854 ff., and in *N.C.*, 1863-85, must be supplemented by G. Coffey's *Catalogue of Irish Coins in the Collection of the Royal Irish Academy*, Part II.: "Anglo-Irish" (Dublin, 1895); B. Roth's "Danish Kings of Ireland" (*B.N.J.*, vi., 1909); H. Symonds's

articles in *N.C.*, 1915 and 1917, on the Irish coinage from Henry VIII. to Elizabeth; and P. Nelson's *Coinage of Ireland in Copper, Tin, and Pewter*, 1460-1826 (Liverpool, 1905). The last writer has also described the "Coinage of the **Isle of Man**" in *N.C.*, 1899.

The **token coinage** of the seventeenth century (of some interest for local history) is collected by W. Boyne, *Trade Tokens issued in the Seventeenth Century*, second edition, by G. C. Williamson (1889-91); numerous additions in the Proceedings of local archæological societies. The much less important tokens produced in these islands (not always without an eye on the collector) in the late eighteenth and nineteenth centuries are described, with the same object, by J. Atkins, *Tradesmen's Tokens of the Eighteenth Century* (1892); R. Dalton and S. H. Hamer, *Provincial Token Coinage of the Eighteenth Century* (1910-17); and W. J. Davis, *Nineteenth-Century Token Coinage* (1904). F. P. Barnard's *Casting-Counter and Counting-Board* (Oxford, 1916) deals very thoroughly with an interesting side-issue of numismatics with some bearing on commerce in Europe from the fourteenth to the seventeenth centuries (full bibliography).

The currency of the **British colonies** is discussed from the economic point of view by R. Chalmers, *History of Currency in the British Colonies* (1893). J. Atkins's *Coins and Tokens of the Possessions and*

Colonies of the British Empire (1889) is merely a collector's handbook.

The **American colonies** receive special treatment in the books mentioned below; see also P. Nelson, "Coinage of William Wood for the American Colonies" (*B.N.J.*, i., 1905).

America.—For the States see M. W. Dickeson, *American Numismatical Manual* (Philadelphia, 1859); S. S. Crosby, *Early Coins of America* (Boston, 1878), and the files of the *A.J.* Both North and South America are covered by A. Weyl's catalogue of the *Jules Fonrobertsche Sammlung überseeischer Münzen und Medaillen*, Parts I. to III. (Berlin, 1877–8). For Spanish and independent Central and South America see A. Rosa, *Monetario Americano* (Buenos Aires, 1892); the works of J. Meili, especially *Das brasilianische Geldwesen* (Zürich, 1897–1905); A. Herrera, *El Duro* (above, under Spain); and J. T. Medina, *Medallas y monedas chilenas* (Santiago de Chile, 1901–2), and *Las monedas obsidionales hispano-americanas* (Santiago de Chile, 1919).

India, Persia, etc.—The invaluable summary of Indian numismatics as one of the sources of Indian history down to the fourteenth century, by E. J. Rapson ("Indian Coins" in G. Bühler's *Grundriss der Indo-Arischen Philologie und Altertumskunde*, Bd. ii., Strassburg, 1898) is provided with very full bibliographical references up to date. The follow-

ing publications of later years may be mentioned: *Catalogue of Coins in the Indian Museum, Calcutta*, I., by V. A. Smith (Oxford, 1906). *Catalogue of the Panjab Museum, Lahore*, I., "Indo-Greek Coins," by R. B. Whitehead (Oxford, 1914). British Museum Catalogues: *Andhra Dynasty, Western Kṣatrapas, Traikūṭaka, and "Bodhi" Dynasties*, by Rapson (1908), and *Gupta Dynasties and Śaśāṅka, King of Gauḍa*, by J. Allan (1914).

Nothing of importance on the Sassanian coinage of Persia has appeared recently, except J. de Morgan's study, "Des ateliers monétaires sous la dynastie des rois sassanides de Perse" (*R.N.*, 1913).

On later non-Muhammadan series we may note E. H. Walsh, "Coinage of Nepal," in *Journal R. Asiatic Soc.*, 1908, and J. Allan, "Coinage of Assam," in *N.C.*, 1909.

For the Muhammadan period, reference should be made to the bibliography in O. Codrington's *Manual of Musalman Numismatics* (Royal Asiatic Society, London, 1904). The catalogues of the Indian Calcutta Museum (vols. ii. and iii., *Sultans of Delhi and Mughal Emperors*, by H. Nelson-Wright, Oxford, 1907-8), of the Panjab Museum, Lahore (vol. ii., *Mughal Emperors*, by R. B. Whitehead, Oxford, 1914) and of the Lucknow Museum (*Mughal Emperors*, by C. J. Brown, Oxford, 1920), are now available. R. B. Whitehead's "Mint Towns of the Mughal Emperors" (*Journ. As. Soc. Bengal*,

1912) is most valuable for the Mughal period. Articles on Indian coins appear regularly in the Numismatic Supplement to the last-mentioned journal, from 1904.

The literature of the **Muhammadan** coinages of other countries has not received any important additions since the publication of Codrington's manual. We note, however, E. von Zambaur's "Contributions à la numismatique orientale" in *N.Z.*, 1904, 1906, 1914.

The Far East.—J. H. S. Lockhart's *Currency of the Farther East* (Hong-Kong, 1895–98) and his *Catalogue* of his own collection (Shanghai, 1915) give illustrations of all the chief coinages. The British Museum *Catalogue of Chinese Coins*, by Terrien de la Couperie (1892), covers only the period from the seventh century B.C. to A.D. 621. L. C. Hopkins's important discussion of this author's theories ("On the Origin of Chinese Coinage," in *Journ. R. Asiatic Soc.*, 1895) should be consulted. The great native work is Ku-Ch'uan Huei, 15 vols. (1852). G. Vissering, *On Chinese Currency, Coin, and Paper Money* (Leyden, 1877) is important. W. Vissering, *On Chinese Currency* (Amsterdam, 1914), and S. R. Wagel's *Chinese Currency and Banking* (Shanghai, 1915), on the other hand, are chiefly concerned with finance. J. A. Decourdemanche deals with Eastern metrology in his *Traité des monnaies, mesures et poids anciens et modernes de*

l'Inde et de la Chine (Paris, 1913). N. G. Munro's *Coins of Japan* (Yokohama, 1904) is popular (bibliography of native authorities, p. 265); and E. de Villaret's "Numismatique japonaise" (*R.N.*, 1892) is well illustrated. C. T. Gardner has described the coinage of Corea in *Journ. of China Branch of R. Asiatic Soc.*, xxvii. (Shanghai, 1892-3). For Annam reference may be made to D. Lacroix, *Numismatique annamite* (Saigon, 1900), and A. Schroeder, *Annam, études numismatiques* (Paris, 1905).

MEDALS.

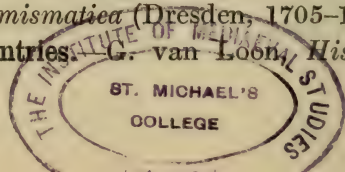
Many of the books mentioned under Coins describe medals also; these are not repeated in this list, from which also monographs on individual artists or groups of medals, as well as many older books, are excluded for lack of space.

Collective Works.—*Trésor de numismatique et de glyptique*, edited by P. Delaroche, H. Dupont, Ch. Lenormant (Paris, 1834-41) [Italian and German Medals of the Renaissance, Papal to Gregory XVI., and French from Renaissance to First Empire]. G. F. Hill, *Medals of the Renaissance* (Oxford, 1920) [Italian, German, French, Netherlandish, British; from the artistic point of view; bibliography]. The excellent international periodical, *Archiv für Medaillen- und Plaketten-Kunde* (Halle-a.-S., 1913-4), suspended during the war, is to be continued.

Italian.—A. Armand, *Les Médailleurs italiens des quinzième et seizième siècles* (Paris, vols. i., ii., second edition, 1883; vol. iii., 1887) [unillustrated: contains also many French medals]. A. Heiss, *Les Médailleurs de la Renaissance* (Paris, 1881–92). C. von Fabriczy, *Medaillen der italienischen Renaissance* (Leipzig, no date; English translation by Mrs. Hamilton, 1904) [artistic]. P. Rizzini, *Illustrazione dei Civici Musei di Brescia, Parte ii.* [Italian Medals, fifteenth to eighteenth centuries] (Brescia, 1892). P. Bonanni, *Numismata Pontificum Romanorum* [from Martin V. to 1699] (Rome, 1699).

German.—K. Domanig, *Die deutsche Medaille in kunst- und kulturhistorischer Hinsicht* [based on the Vienna Collection] (Vienna, 1907). G. Habich, “Studien zur deutschen Renaissance-Medaille,” in progress in *Jahrbuch der preussischen Kunstsammlungen* from 1906 [artistic]. The same, *Die deutschen Medailleure des xvi. Jahrhunderts* (Halle-a.-S., 1916) [artistic, summary, bibliographies]. J. Bergmann, *Medaillen auf berühmte und ausgezeichnete Männer des Oesterreichischen Kaiserstaates* (Vienna, 1844–57). K. Domanig, *Porträtmedaillen des Erzhauses Oesterreich* (Vienna, 1896). Berlin, Königliche Museen, *Schaumünzen des Hauses Hohenzollern* (Berlin, 1901). W. E. Tentzel, *Saxonia numismatica* (Dresden, 1705–14).

Low Countries.—G. van Loon, *Histoire Métal-*



lique des xvii. Provinces des Pays-Bas [to 1716] (The Hague, 1732-7), supplement in Dutch to c. 1800 (Amsterdam, 1821-69). Guioth, *Histoire numismatique de la Révolution belge* (Hasselt, 1844-5). J. Simonis, *L'Art du Médailleur en Belgique* (Brussels, 1900-4) [artistic]. V. Tourneur, *Médailles du Royaume de Belgique, I. 1830-47* (Brussels, 1911).

France.—F. Mazerolle, *Les Médailleurs français du x^e siècle au milieu du xvii^e* (Paris, 1902-4). Administration des Monnaies et Médailles, *Médailles françaises dont les coins sont conservés au Musée monétaire* (Paris, 1892). L. Bramsen, *Médailleur Napoléon le Grand* (Paris and Copenhagen, 1904-7).

Great Britain and Ireland.—A. W. Franks and H. A. Grueber, *Medallic Illustrations of the History of Great Britain and Ireland* (1885). Plates to the same, with summary descriptions (1904-11). J. H. Mayo, *Medals and Decorations of the British Army and Navy* (Westminster, 1897). Marquess of Milford Haven, *British Naval Medals* (1919) (volumes on naval medals of other nations to follow).

Spain.—A. Vives, *Medallas de la Casa de Borbón, de D. Amadeo I., del Gobierno provisional y de la República española* (Madrid, 1916).

Scandinavia.—*Beskrivelse over Danske Mynter og Medailler* (Copenhagen, 1791). B. E. Hildebrand, *Sveriges och Svenska Konungahusets Minnepenningar* (Stockholm, 1874). V. Bergsøe,

Danske Medailler og Jetons fra 1789–1892 (Norges til 1814, Slesvig og Holstens til 1864) (Copenhagen, 1893).

Poland.—E. Hutten-Czapski, *Collection des Médailles et Monnaies polonaises* (St. Petersburg, 1871–80).

America.—C. W. Betts, *American Colonial History illustrated by Contemporary Medals* (New York, 1894). J. T. Medina, *Medallas coloniales hispano-americanas* (Santiago de Chile, 1900); *Las Medallas Chilenas* (Santiago de Chile, 1901); *Medallas de Proclamaciones y Juras de los Reyes de España en América* (Santiago de Chile, 1917); and *Las Medallas del Almirante Vernon* (Santiago de Chile, 1919).

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